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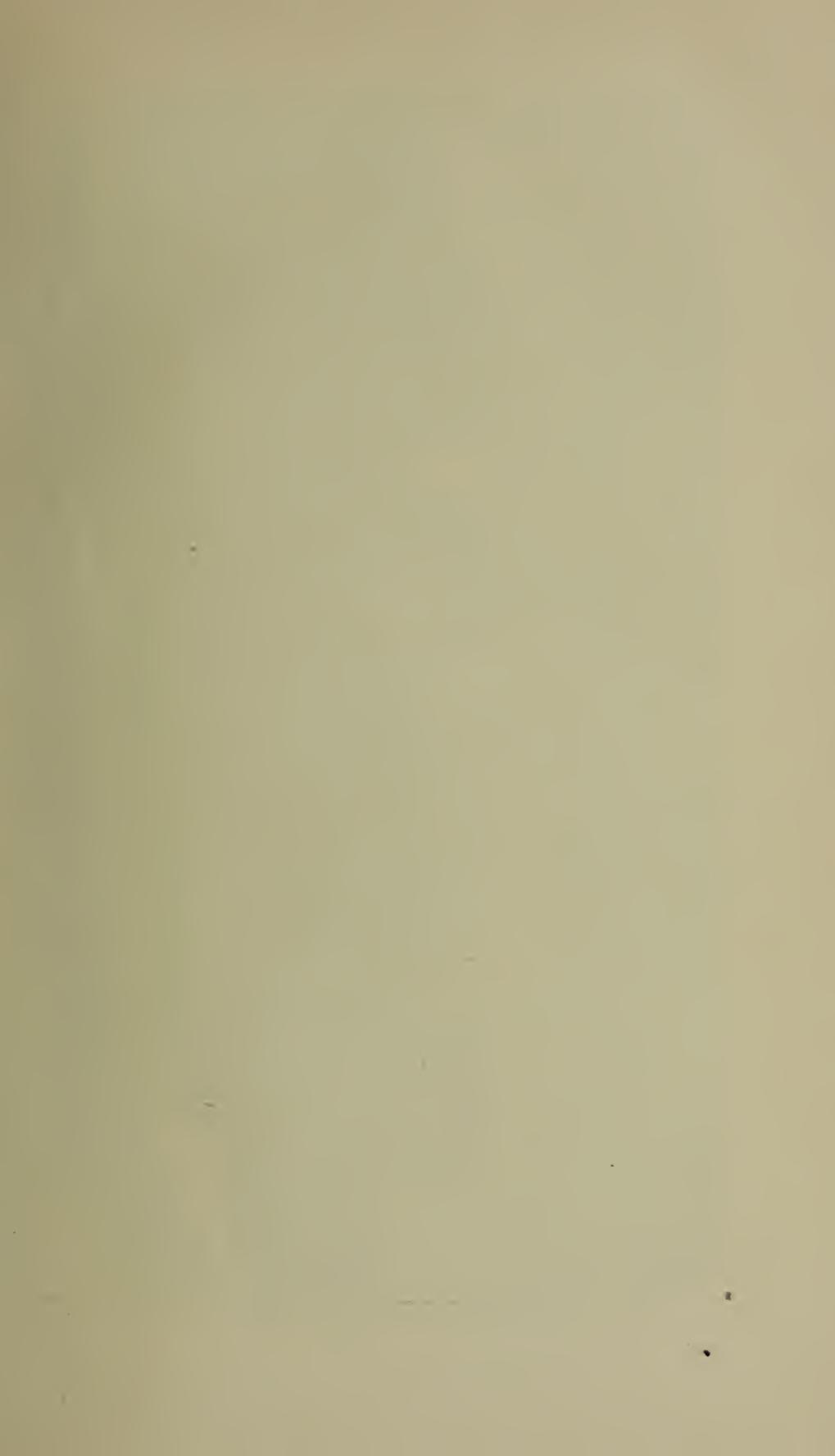
State College of Agriculture

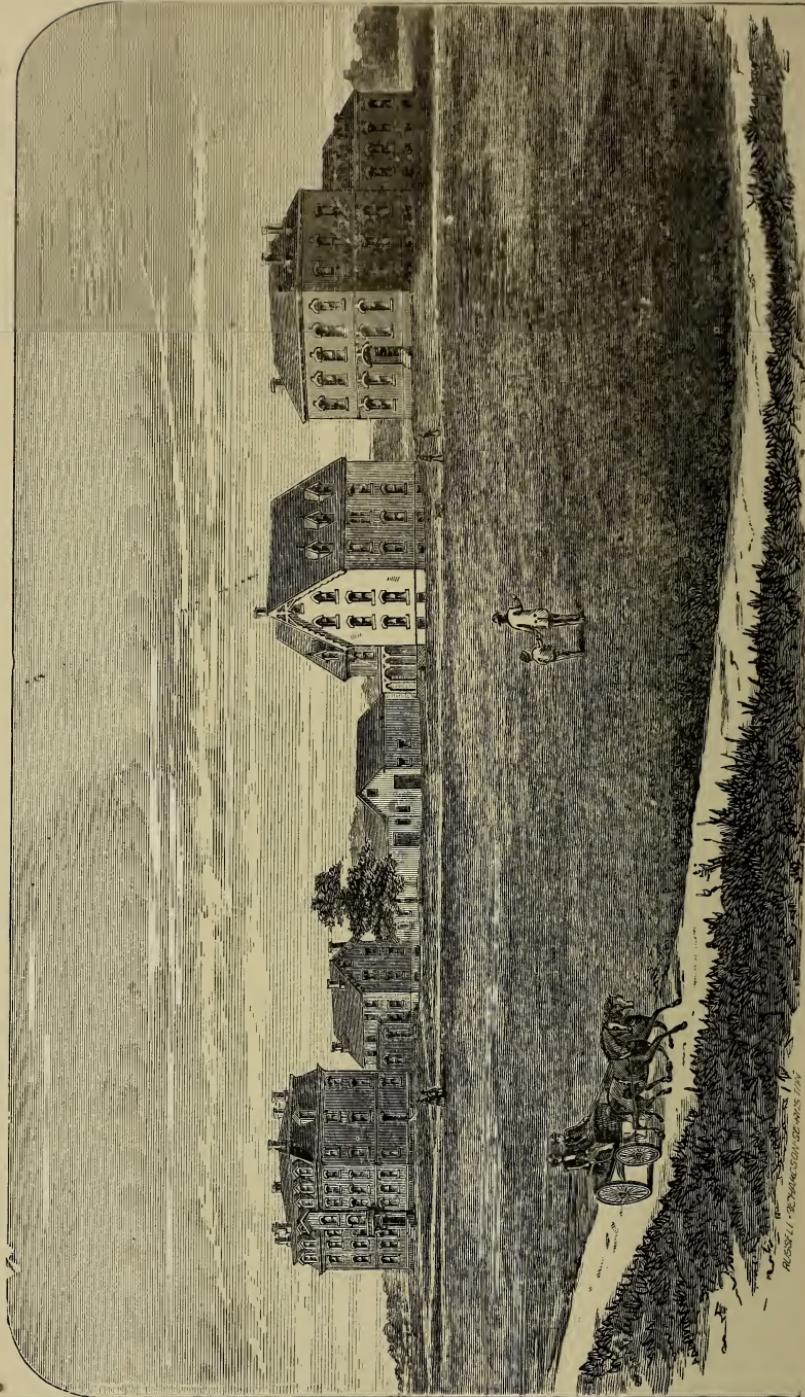
AND THE

MECHANIC ARTS.

1883-84.

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UNIVERSITY OF ILLINOIS,





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Engr'd. by R. M'NAULON, Oxford.

Laboratory.

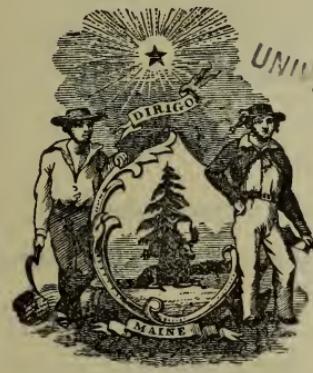
CATALOGUE

OF THE

State College of Agriculture

AND THE

MECHANIC ARTS.



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ORONO, MAINE, 1883-84.

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1884.

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HON. Z. A. GILBERT, EAST TURNER,

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Instructor in Vise-work and Forge-work.

GILBERT M. GOWELL,
Farm Superintendent.

JESSE G. JOHNSON,
Steward.

S T U D E N T S .

SENIOR CLASS.

Allan, George Herman,	Dennysville.
Burleigh, Will Hall,	Vassalboro'.
Conroy, Mary Frances,	Brewer.
Cutter, Leslie Willard,	Bangor.
Fernald, Hattie Converse,	Orono.
Hatch, Elmer Ellsworth,	Lagrange.
Hill, John Edward,	Bangor.
Kelley, Joseph Grant,	Orono.
Ladd, Edwin Fremont,	Starks.
Lunt, Clarence Sumner,	Stillwater.
Morey, William, Jr.,	Hampden.
Pattangall, William Robinson,	Pembroke.
Stevens, Fred Leroy,	Temple.
Webber, William,	Guilford.

JUNIOR CLASS.

Chamberlain, George Walter,	W. Lebanon.
Dole, Ashar,	Brewer.
Dutton, Orion Jesse,	Vassalboro'.
Fernald, Henry Leroy,	Orono.
Goodridge, Elmer Orlando,	Milo.
Hanscom, George Loring,	Orono.
Hart, James Norris,	Howard.
Hull, Frank Eugene,	Warren.
Keyes, Austin Herbert,	Orland.
Manter, Frank Ellsworth,	Milo.
Merrill, Dennis Dearing,	Orono.
Merritt, Elmer Ellsworth,	Houlton.
Moulton, Joseph Perkins,	Sanford.
Paine, Leonard Gregory,	Bangor.
Pennell, Elmer Ellsworth,	Saccarappa.
Riggs, Louis Warner,	No. Georgetown.
Russell, Fremont Lincoln,	No. Fayette.

SOPHOMORE CLASS.

Allan, Bert John,	Pembroke.
Ayer, Josiah Murch,	Freedom.
Barker, George Greenleaf,	Rockland.
Bartlett, Eugene Clarence,	Orono.
Black, George Fuller,	Palermo.
Blagden, John Decker,	Carmel.
French, Heywood Sanford,	Bangor.
Graves, Edwin Dwight,	Orono.
Jones, Ralph Kneeland, Jr.,	Bangor.
Leavitt, Hannah Ellis,	Norridgewock.
Lenfest, Elmer,	Bradley.
Lockwood, James Frederic,	Brewer.
Merriam, Charles Herbert,	Houlton.
Merriam, Willis Henry,	Houlton.
Page, Arthur Dean,	Orono.
Ray, Irving Burton,	Harrington.
Sears, Cassius Almon,	Fort Kent.
Twombley, Sydney Smith,	Enfield.
Williams, Charles Sampson,	Monhegan Island.

FRESHMAN CLASS.

Allen, John Wallace,	Presque Isle.
Brick, Francis Stephen,	Biddeford.
Burleigh, John Henry,	Vassalboro'.
Cilley, Luis Vernet Prince,	Rockland.
Clark, Bert Elmer,	West Tremont.
Coffin, Edwin Voranus,	Harrington.
Harris, William John,	Groton, Mass.
Houghton, Austin Dinsmore,	Ft. Fairfield.
Kennedy, James Samuel,	Ludlow.
Kirkpatrick, Fred Hudson,	Bangor.
Lazell, James Draper,	Rockland.
Lincoln, Harry Foster,	Dennysville.
Mason, Charles Ayers,	Bethel.
McNally, Henry Allan,	Fort Fairfield.
Merrill, Fenton,	Orono.
Perham, William Lincoln,	Paris.
Ruth, Alfred Smith,	Linneus.
Saunders, Addison Roberts,	Hanover.
Stevens, Charles Hildreth,	Ft. Fairfield.
Trask, Frank Ellsworth,	Bethel.
Tucker, Frank Lincoln,	Norway.
Vose, Charles Thatcher,	Milltown, N. B.
Wentworth, Charles Williams,	Windham.
Williams, John Sumner,	Guilford.
Young, Rodney Adelbert Buxton,	Greenbush.

SPECIAL COURSE.

Butler, Frederick Heywood,	Hampden.
Dickerson, Fred William,	Belfast.
Libby, Willard Alton,	South Auburn.
Libby, Charles Leon,	South Auburn.
Moor, Dudley Watson, Jr.,	Waterville.
Vose, Elisha Chick,	Bangor.

SUMMARY.

Seniors,	14	Freshmen,	25
Juniors,	17	Special,	6
Sophomores,	19		—
		Total,	81

PRIZES FOR 1882.

Coburn Prize for best Junior Essay, awarded to W. H. Burleigh.
 Coburn Prize for best Sophomore Declamation, awarded to F. L. Russell.
 Second Prize, Sophomore Declamation, awarded to G. W. Chamberlain.

MILITARY DEPARTMENT.

COBURN CADETS.

Commandant—2d Lieut. EDGAR W. HOWE, 17th U. S. Infantry.

Captain—C. S. LUNT.

Lieutenants—J. E. HILL, E. F. LADD, WM. WEBBER and F. L. STEVENS.

First Sergeant—H. L. FERNALD.

Sergeants—E. O. GOODRIDGE, L. W. RIGGS, A. H. KEYES and L. G. PAIN.

Corporals—H. S. FRENCH, I. B. RAY, R. K. JONES, A. D. PAGE, E. C. BARTLETT and C. A. SEARS.

DESIGN OF THE INSTITUTION.

It is the design of the Maine State College of Agriculture and the Mechanic Arts to give the young men of the State, who may desire it, at a moderate cost, the advantages of a thorough, liberal and practical education. It proposes to do this by means of the most approved methods of instruction, by giving to every young man who pursues a course of study an opportunity practically to apply the lessons he learns in the class-room, and by furnishing him facilities for defraying a part of his expenses by his own labor.

By the act of Congress granting public lands for the endowment and maintenance of such colleges, it is provided that the leading object of such an institution shall be, "without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to Agriculture and the Mechanic Arts."

While the courses of study fully meet this requisition, and are especially adapted to prepare the student for agricultural and mechanical pursuits, it is designed that they shall be also sufficiently comprehensive, and of such a character, as to secure to the student the discipline of mind and practical experience necessary for entering upon other callings or professions.

CONDITIONS OF ADMISSION.

Candidates for admission to the Freshman class must be not less than fifteen years of age, and must pass a satisfactory examination in Arithmetic, Geography, English Grammar, (especial attention should be given to Orthography, Punctuation and Capitals,) History of the United States, Algebra as far as Quadratic Equations, and five books in Geometry.

Although the knowledge of Latin is not required as a condition of admission, yet the study of that language is earnestly recommended to all who intend to enter this Institution.

Candidates for advanced standing must sustain a satisfactory examination in the preparatory branches, and in all the studies previously pursued by the class they propose to enter.

Satisfactory testimonials of good moral character and industrious habits will be rigidly exacted. They should be presented on the day of examination.

The day after Commencement, which is the last Wednesday of June, and the day of the beginning of the first term, are the appointed times for the examination of candidates at the College.

Arrangements have been made by which applicants accommodated by the plan may pass examination for admission without incurring the expense of coming to Orono. The gentlemen named below have been appointed examiners for the sections of the State in which they severally reside:

C. P. Allen, B. S.,	Presque Isle.
H. M. Estabrooke, B. S.,	Gorham.
E. S. Danforth, B. S.,	
S. W. Gould, B. S.,	
Principal Hoyt, and	
O. C. Farrington, B. S.,	
S. K. Hitchings, B. S.,	Greeley Institute, Cumberland.
A. P. Soule, A. B.,	Biddeford.
Henry K. White, A. M.,	Dexter.
Rev. W. R. Cross,	East Machias.
Henry W. Johnson, A. B.,	Milltown, N. B.
I. C. Phillips, A. B.,	Bethel.
W. P. Foster, A. B.,	Wilton.
	Ellsworth.

Examinations may be taken before the three examiners last named, on June 14, 1884, at their respective places of residence, or at the institutions over which they preside.

The other examiners will indicate by postal card to parties applying, the time and special place of examination. Arrangements have also been made with the Seminary at Bucksport, by which students from that institution may be admitted to the College on certificate of qualification by the Principal, Rev. M. W. Prince, A. M.

All candidates, wherever they may arrange to be examined, should make early application to the President of the College. Applications will be recorded and regarded in the order of their reception.

COURSES OF INSTRUCTION.

Five full courses are provided, viz: A Course in Agriculture, in Civil Engineering, in Mechanical Engineering, in Chemistry, and in Science and Literature.

The studies of the several courses are essentially common for the first two years, and are valuable not only in themselves, but also as

furnishing a necessary basis for the more technical studies and the practical instruction of the Junior and Senior years

Physical Geography, taught in the first term of the Freshman year, serves as a suitable introduction to Geology which is taken up later in each of the courses. Physiology serves as an introduction to Comparative Anatomy, and Algebra, Geometry and Trigonometry are useful preliminaries to the higher mathematics and the practical applications required in Surveying, Engineering proper, and Astronomy. Botany, Chemistry and Physics are highly important branches, common to all the assigned courses, and hence taken by all the students who are candidates for degrees.

Rhetoric, French and English Literature form the early part of the line of studies which later includes German, Logic, History of Civilization, U. S. Constitution, Political Economy and Mental and Moral Science, branches, several of which relate not more to literary culture than to social and civil relations, and to the proper preparation for the rights and duties of citizenship.

Composition and Declamation are regular exercises in all the courses throughout the four years. For the characteristic features of each course reference is made to the explanatory statements following the several schemes of study.

SPECIAL COURSES.

Students may be received for less time than that required for a full course, and they may select from the studies of any class such branches as they are qualified to pursue successfully. Students in Special Courses are not entitled to degrees, but may receive certificates of proficiency.

DEGREES.

The full course in Civil Engineering entitles to the Degree of Bachelor of Civil Engineering; the full course in Mechanical Engineering, to the Degree of Bachelor of Mechanical Engineering; the full course in Agriculture, Chemistry, or Science and Literature, to the Degree of Bachelor of Science.

Three years after graduation, on presentation of a satisfactory thesis with the necessary drawing, and proof of professional work or study, the Bachelors of Civil Engineering may receive the Degree of Civil Engineer; the Bachelors of Mechanical Engineering, the Degree of Mechanical Engineer; the Bachelors of Science, the Degree of Master of Science.

COURSE IN AGRICULTURE.

FIRST YEAR.

First Term.

Physical Geography.
Physiology.
Algebra.
P. M. Labor on Farm.

Second Term.

Rhetoric and Botany.
Algebra and Geometry.
French.
P. M. Book-Keeping and Labor on Farm.

SECOND YEAR.

First Term.

Botany.
General Chemistry.
French.
Trigonometry.
P. M. Free-hand Drawing.

Second Term.

Descriptive Astronomy and Surveying or (L) History of England.
Physics.
Qualitative Chemistry.
P. M. Mechanical Drawing.
Field Work and Forge Work.

THIRD YEAR.

First Term.

Agricultural Engineering, including Farm Implements, Farm Drainage and Mechanical Cultivation of the Soil. Physics.
Agricultural Chemistry.
English and American Literature.
German.
P. M. Laboratory Work or *Analysis of English Authors and Translations from the French.

Second Term.

Agricultural Chemistry, Landscape Gardening, Horticulture and Arboriculture.
Zoology and Entomology.
German.
P. M. Laboratory Work and Experimental Farming or *Analysis of English Authors.

FOURTH YEAR.

First Term.

Stock Breeding and Veterinary Science.
Comparative Anatomy.
History of Civilization.
Logie.
P. M. Experimental Farming and Agricultural Botany or *Translations from German.

Second Term.

Cultivation of Cereals, Care and Feeding of Animals, Dairy Farming and Sheep Husbandry.
Mineralogy and Geology.
U. S. Constitution and Political Economy.
Mental and Moral Science.

*To be taken in Course in Science and Literature in place of study preceding.

EXPLANATORY STATEMENTS.

This course is designed to fit young men to follow agriculture as a profession, with success, as well as to prepare them for the intelligent performance of the duties of citizenship.

To this end, the curriculum of studies is largely scientific and technical, not omitting, however, those branches that have been referred to as pertaining to social and civil relations.

The instruction in agriculture is given largely by lectures, and embraces subjects of great practical importance to the farmer, which are briefly explained under the following heads :

Agricultural Engineering.—Combined with recitations in mechanics from a text-book, lectures are given on the principles of construction and use of farm implements, illustrated by charts to the extent possible, on the construction of roads, culverts and masonry, and on soil physics, or the relations of the soil to heat and moisture, the mechanical conditions of the soil best adapted to plant growth, and the objects to be gained by cultivation.

Agricultural Chemistry.—Under this head are considered the various methods of retaining and increasing the fertility of the soil, the sources, composition and methods of valuation of commercial and farm manures, together with the principles governing their treatment and application, the composition of cattle foods, their changes and uses in the animal system, and the value and economic use of the various kinds of fodders.

Landscape Gardening.—The object of this study is to furnish correct ideas of the manner of laying out and beautifying grounds. This subject is followed by lectures on Horticulture and Arboriculture.

Cultivation of Cereals.—Lectures are given upon the best methods of cultivating the principal farm crops.

Dairy Farming.—This embraces the chemical and physical properties of milk, and the principles and practical operations that underlie its production and manufacture into butter and cheese.

Sheep Husbandry.—The characteristics and comparative merits of our different breeds of sheep are discussed, also their adaptability to different conditions and uses.

Botany.—Following recitations and practical work in Botany, lectures are given upon fungi injurious to the farmer.

Chemistry.—One term is devoted to General Chemistry, two terms to Agricultural Chemistry, one-half term to Organic Chemistry, and

the afternoons of several terms are devoted to laboratory practice, including analyses of farm products.

Zoölogy and Entomology.—In Zoölogy, the larger groups of the animal kingdom are taken up and described in lectures which are illustrated by means of diagrams, models, or the objects themselves, and the students are required to make critical studies of typical animals of each group. Such laboratory practice is regarded an indispensable training for the more advanced study of the higher animals, and also forms the basis of the study of Historical Geology.

The studies in Entomology are conducted in a similar manner. After a general review of the orders has been given, illustrated by such common insects as are familiar to all, the beneficial and injurious are taken up more in detail, their round of life described, together with the injuries they do to the products of the farmer, the gardener, and the fruit-raiser, as well as to our forests and building materials, and the best known means of keeping them in check. For the purpose of making the instruction as practical and impressive as may be, many of the injurious insects are carried through their transformations in the class-room, where each student can note the various changes from day to day, and learn to recognize these insect enemies in any stage of their existence; and each member of the class is required to devote some time in field-collecting, and in observing the habits and work of insects in nature.

The subject of Bee-Keeping is taken up quite at length; the different kinds of bees in a swarm, their habits, anatomy, and the mode of collecting the different products are all described and illustrated by means of elaborate models, while artificial swarming, the mode of hybridizing a swarm, and the advantages of the same, with the most approved methods now in use for the care and management of bees, are also fully described.

Comparative Anatomy.—Under Comparative Anatomy are taken up the anatomy and physiology of our domestic animals, together with a brief outline of our wild animals, so far as time permits. This is followed by a course of illustrated lectures on Stock Breeding and Veterinary Science.

Mineralogy and Geology.—A preliminary course of lectures is given on Mineralogy, followed by laboratory practice in the determination of minerals, and in lithology, special attention being called to gypsum, limestone, and such other minerals as are of direct importance to the students of agriculture.

The instruction in Geology is by means of illustrated lectures and excursions, critical attention being given to the origin and formation of soils.

Law.—A course of lectures is given to the Senior class on International and Rural Law.

Throughout the course, the endeavor is made to inculcate established principles in agricultural science, and to illustrate and enforce them to the full extent admitted by the appliances of the laboratory and the farm. So far as possible, students are associated with whatever experimental work is carried on, that they may be better fitted to continue such work in after life.

Those who complete this course receive instruction also in Mathematics, French, German, English Literature, Logic, United States Constitution, Political Economy, and Mental and Moral Philosophy, and on presenting satisfactory theses upon some agricultural topic, are entitled to the degree of Bachelor of Science.

The Course in Science and Literature includes French and German, the general, mathematical, and most of the scientific studies of the agricultural course. Instead of certain branches quite purely technical in the latter course, History, and English and American Literature are substituted.

In the special laws of the State, passed in 1872, it is provided that young ladies "who possess suitable qualifications for admission to the several classes may be admitted as students in the college."

In arranging the course in Science and Literature reference has been had to this enactment. From this course, however, young men who desire it are not excluded, as, on the other hand, young ladies are not excluded from any of the other courses.

COURSE IN CIVIL ENGINEERING.

FIRST YEAR.

First Term.

Algebra.
Physical Geography.
Physiology.
P. M. Labor on Farm.

Second Term.

Algebra and Geometry.
Rhetoric and Botany.
French.
P. M. Book-Keeping and Labor on Farm.

SECOND YEAR.

First Term.

Trigonometry.
General Chemistry.
French.
P. M. Free-Hand Drawing.
Mechanical Drawing.

Second Term.

Descriptive Geometry.
Descriptive Astronomy and Surveying.
Physics.
P. M. Mechanical Drawing and Field Work.

THIRD YEAR.

First Term.

Henck's Field Book.
Analytical Geometry.
Physics.
German.
P. M. Field Work and Drawing.

Second Term.

Mechanics.
Calculus.
German.
P. M. Isometric and Cabinet Projection and Perspective.

FOURTH YEAR.

First Term.

Civil Engineering.
Stereotomy.
Practical Astronomy.
Logic.
P. M. Topography and R. R. Work.

Second Term.

Civil Engineering, Designs and Specifications.
Mineralogy and Geology.
Zoology.
U. S. Constitution and Political Economy.
P. M. Analytical Chemistry, Designing and Thesis Work.

EXPLANATORY STATEMENTS.

The object of this course is to give the student a thorough knowledge of Higher Mathematics, Mechanics, Astronomy and Drawing, and, at the same time, a thorough drill in the use and care of the ordinary engineering instruments and in the application of mathematical principles and rules, so that the graduates can at once be made useful in engineering work and be fitted, after a limited amount of experience in the field, to fill positions of importance and trust. The course is also arranged so as to afford, so far as can be, the education required to prepare the graduate for a responsible position among *men*, as well as among engineers.

In this course the work is identical with that of the other courses during the first year. During the fall term of the Sophomore year, students in this course work two hours each afternoon, in the drawing room, on free-hand and mechanical drawing. In the last term of this year, the subject of land surveying is taken up. The first eight weeks are devoted to tinting, shading, etc., in water colors, while the remaining twelve weeks are given to practical surveying, besides an hour's recitation each day. The class is engaged two hours, either in the field or drawing room, becoming familiar with the use and care of instruments, putting into practice the problems found in the text-book, and making actual surveys.

In the first term of the Junior year, Henck's Field Book is used as a text-book, from which the student obtains methods of running railroad curves, putting in switches and turnouts, setting slope-stakes, and the calculation of earthwork. This is supplemented with examples worked by the student, and lectures on levelling, preliminary and final surveys and on the resistance to trains offered by grades and curves, together with the theory and construction of country roads, streets and pavements. These methods of the text-book, so far as possible, are applied in the field and the drawing room, each student in the course being required to work two hours, either in the field or drawing room, every day.

The subject of Applied Mechanics is taken up the last term of this year, in which the students receive a thorough training in the principles underlying construction, illustrated as far as possible by practical examples, in which these principles are applied. During this term, each student in the class works two hours each day in

the drawing room, where isometric, cabinet and perspective projection are taught by means of lectures and problems drawn by the students.

During the Senior year, Rankine's Civil Engineering is the textbook employed, though other works are used for reference. Besides these, much material is given in the form of lectures and notes on the blackboard.

In the first term of this year the principles of the strength of materials are taken up, supplemented by information as to durability, preservation and fitness for special purposes. The principles of hydraulics, as applied in engineering, the theories of ties, struts, beams, foundations, retaining walls and arches are fully treated.

Stone cutting is taken up this term, by lectures and practical problems, each student being required to make a complete set of working drawings of the most common forms of masonry arches.

Six weeks of this term are devoted to sanitary engineering; especial attention being given to ventilation, heating, purity of water supply and the proper drainage of houses and towns.

Also the subjects of topographical and railroad surveying are taken up this term and illustrated by a topographical survey of a portion of the college farm, and by the preliminary and final surveys for a railroad extending from the college grounds to some point on the E. & N. A. Railroad, together with the drawings, calculations of earthwork and estimate of cost of building and equipping.

The first part of the last term of this year is devoted to the theory of roof and bridge trusses, lectures on the locomotive engine and a short course in Analytical Chemistry, while the greater part is given to the application of the principles already learned, to the designing and calculation of various kinds of engineering structures, and to making out estimates and specifications.

This, together with the preparation of a satisfactory thesis, completes the work in the course in Civil Engineering.

MINERALOGY AND GEOLOGY.

Mineralogy is taught by an introductory course of lectures, followed by laboratory practice in the determination of minerals and rocks, especial attention being given to their value for building purposes. This is immediately followed by a course of lectures in Geology, together with excursions for the purpose of studying the

rocks *in situ*, and also superficial deposits. Critical examinations are made in various railroad cuts, of the hardness, slaty structure, jointed structure, etc., as bearing upon the cost of excavation.

ASTRONOMY.

In the first part of the spring term, Descriptive Astronomy is taken by the students of the Sophomore class, and Practical Astronomy during the larger part of the first term, Senior year.

The course in Astronomy is designed to enable students to determine with accuracy geographical positions. The principal instruments employed are chronometer, sextant, transit, and for work of precision, the Repsold vertical circle, an instrument made in Hamburg, Germany, in 1874, for this institution. Practical instruction is given in the use of these instruments, and in the most approved methods of reducing observations for the determination of latitude and longitude.

DEGREES.

Students in this department secure the degree of Bachelor of Civil Engineering on graduating, with the full degree of Civil Engineering three years after, on presentation of a satisfactory thesis, with proof of professional work or study.

COURSE IN MECHANICAL ENGINEERING.

FIRST YEAR.

First Term.

Algebra.
Physiology.
Physical Geography.
P. M. Labor on Farm.

Second Term.

Algebra and Geometry.
Rhetoric and Botany.
French.
P. M. Book-Keeping and Labor on Farm.

SECOND YEAR.

First Term.

Trigonometry.
French.
General Chemistry.
P. M. Free-Hand Drawing and Carpentry.

Second Term.

Descriptive Geometry.
Descriptive Astronomy.
Physics.
P. M. Mechanical Drawing and Forge Work.

THIRD YEAR.

First Term.

Kinematics.
Analytical Geometry.
Vise Work, Physics.
P. M. Machine Drawing.

Second Term.

Dynamics and Machine Design.
Calculus.
Machine Drawing.
P. M. Isometric and Cabinet Projection and Machine Drawing.

FOURTH YEAR.

First Term.

Hydraulic Motors.
Practical Astronomy.
Logic.
P. M. Machine Drawing and Designing.

Second Term.

Steam Engine, and Boiler Designs and Specifications.
Valve and Link Motions.
U. S. Constitution and Political Economy.
P. M. Machine Drawing, Designing and Thesis Work.

EXPLANATORY STATEMENTS.

It is the design of this course to give such a knowledge of Mathematics, Mechanics, Principles of Mechanism, Drawing and Manual Art as shall enable the student successfully to enter practical life as an engineer, with the same thorough education in subjects required to fit him for the general duties of life as is afforded by the other courses.

The first two years' work is identical with that of the students in Civil Engineering, except that carpentry and forge work are taken the second year in place of part of the drawing. In the Junior year, the first term is devoted to the geometry of machinery, showing the students how different motions may be obtained independently of the power required. Special attention is here given to the subject of gearing, and a full set of problems worked out, illustrating cases commonly occurring in practice. In the second term of this year the time is given to dynamics and the laws of the strength of materials, the student being required to design machine details in accordance with those laws.

In the Senior year, during the first term, instruction is given by lectures on the storage of water for power, and on the theory and construction of modern water-wheels. Practical problems on these subjects are worked out by the students. The first part of the spring term is employed in studying the laws of the expansion of steam, and their influence upon the construction of steam engines and boilers, the subject being illustrated by experiments on the shop engine, with the aid of an indicator. During the remainder of the term, the students are engaged in designing engines and other machines, in making detail drawings of the same, such as would be required to work from in the shop, and in preparing their thesis.

TEXT-BOOKS AND BOOKS OF REFERENCE.

Rankine,	Machinery and Mill Work.	Goodeve,	Steam Engine.
Weisbach,	Mechanics of Engineering.	Marks,	Proportions of Steam Engine.
MacCord,	Kinematics.	Trowbridge,	Steam Boilers.
MacCord,	Slide Valve.	Zenner,	Valve and Link Motions.
Van Buren,	Strength of Machinery.	Auchincloss,	" " "
Knight,	Mechanical Dictionary.	Clark,	Manual.

SHOP WORK.

There are now three shops equipped according to the Russian system, and work in these is required of all students in this course. The first term of the Sophomore year, two hours of each day are devoted to work in carpentry, special attention being given to accuracy of workmanship.

During the second term of the same year, the student receives instruction in forge work, including the welding and tempering of steel. A course in vise work during the first term of the Junior year, gives the student practice in the various methods of shaping and fitting metals by the use of the chisel, hack-saw and file. During their second term, the Junior students in this course take turns in running the shop engine, and are taught the rules of safety and economy in this branch of engineering.

DRAWING.

The work in drawing commences with a course in Free-Hand and Elementary Mechanical Drawing, extending through the Sophomore year.

The first term of the Junior year, the student spends the time allotted to drawing, in working out practical problems on the construction of gear teeth, cams, etc., and in elementary practice in line-shading and tinting.

The second term of this year is devoted to isometric projection, and the making of finished drawings in ink and in water colors. In the first term of the Senior year, the student prepares an original design of some machine, makes working drawings of its details on tracing cloth, and finally prepares copies by the blue print process. The afternoon work of the spring term consists of making calculations for designs of engines and boilers, the construction of the necessary working drawings, and making thesis drawings.

The remarks under Course in Civil Engineering, with regard to Astronomy, apply also to this course, and to them reference is made.

Theses are required of all students as a condition of graduation, and must be on some subject directly connected with Mechanical Engineering.

Students in this course receive the degree of Bachelor of Mechanical Engineering upon graduation, with the full degree of Mechanical Engineer three years afterwards upon presentation of a satisfactory thesis and proof of professional work or study.

COURSE IN CHEMISTRY.

FIRST YEAR.

<i>First Term.</i>	<i>Second Term.</i>
Physical Geography.	Rhetoric and Botany.
Physiology.	Algebra and Geometry.
Algebra.	French.
P. M. Labor on Farm.	P. M. Book-Keeping and Labor on Farm.

SECOND YEAR.

<i>First Term.</i>	<i>Second Term.</i>
General Chemistry.	Qualitative Chemistry.
Botany.	Physics.
French.	Descrip. Astronomy and Surveying.
Trigonometry.	P. M. Mechanical Drawing and Field Work.
P. M. Free-Hand Drawing.	

THIRD YEAR.

<i>First Term.</i>	<i>Second Term.</i>
Chemistry.	Chemistry.
Physics.	Zoology and Entomology.
German.	German.
English and American Literature.	P. M. Laboratory Work.
P. M. Laboratory Work.	

FOURTH YEAR.

<i>First Term.</i>	<i>Second Term.</i>
Chemistry.	Chemistry.
Comparative Anatomy.	Mineralogy and Geology.
History of Civilization.	U. S. Constitution and Political Economy.
Logic.	
P. M. Laboratory Work.	P. M. Laboratory Work.

EXPLANATORY STATEMENTS.

This course aims to supply a want felt by students who wish to enter certain industries in which a somewhat extensive knowledge of Chemistry is important. The first two years are mainly like those of the other courses; Qualitative Analysis being, however, obligatory for these students in the second term of the Sophomore year.

During the Junior year, daily recitations are held in advanced Inorganic Chemistry. In the Senior year, advanced Organic Chemistry is taken up. The afternoons are devoted to Quantitative Chemical Analysis by the Junior and Senior students of the course. The work consists of the most useful gravimetric and volumetric methods, beginning with the simple estimations, which are followed by more complex analyses of alloys, minerals, fertilizers, farm products, &c. A short course in the assay of gold and silver is also given.

The class-room text-books used by this department are: Roscoe's Lessons in Elementary Chemistry and Naquet's Principes de Chimie. In the Laboratory are used: Craft's Qualitative Chemical Analysis, Fresenius' Quantitative Chemical Analysis, Caldwell's Agricultural Chemical Analysis, Wohler's Mineral Analysis, J. A. Wanklyn's Milk Analysis, Flint's Examination of Urine, and Rickett's Notes on Assaying.

Some valuable books of reference are found in the library.

Students taking qualitative analysis must furnish a deposit of at least five dollars when they begin; those taking quantitative analysis are required to deposit at least seven dollars. Students taking the course in chemistry or an extended course in quantitative analysis are expected to provide themselves with a small platinum crucible.

The students, after passing all the required examinations and presenting satisfactory theses upon some chemical subject, graduate with the degree of Bachelor of Science.

Post graduate and special students can make arrangements with the Professor of Chemistry for an advanced or special course of laboratory work and recitations.

TABLE OF HOURS—FIRST TERM.

CATALOGUE.

25

STANDARD TIME.	SENIORS.	JUNIORS.	SOPHOMORES.	FRESHMEN.
7.30 A.M.	History of Civilization, I, IV, V. Civil Engineering, II. Kinematics, III.	German, I, II, IV, V. Analytical Geometry, II, III. English and American Literature, I, IV, V.	General Chemistry. Botany, I, IV, V.	Physical Geography. Algebra.
8.40 A.M.	Stock Breeding and Veterinary Science, I. Advanced Chemistry, IV. Practical Astronomy, II, III, V. (F. of r.)			
9.35 A.M.	Stereotomy, II. (F. of r.) Sanitary Engineering, II, (L. of r.) Comparative Anatomy, I, IV, V. Hydraulic Motors, III.	Farm Drainage and Mechanics, I, Physics, I, II, III, IV, V. (L. of r.) Vise work, III. (F. of r.)	French. Agricultural Chemistry, I. (Optional for V.) Vise Work, III. Advanced Chemistry, IV. (Optional for V.) Field Book, Roads and Railroads, II.	Physiology.
10.30 A.M.	Logic, I, II, III, IV, V.		Laboratory work, I, IV. Machine and Working Drawings, I. Topography and R. R. work, II. Laboratory work, IV. Translations from German, V. Military Drill.	Free-hand Drawing. Mechanical Drawing, II. Carpentry, III. Translations from French Literature, V. Military Drill.
P. M.				Labor on Farm.

Note.—Roman numerals refer to courses as follows: I, Agriculture; II, Civil Eng.; III, Mech. Eng.; IV, Chemistry; V, Science and Lit.

TABLE OF HOURS—SECOND TERM.

STANDARD TIME.	SENIORS.	JUNIORS.	SOPHOMORES.	FRESHMEN.
7.30 A. M.	Mineralogy and Geology, I, II, IV, V. Calculus, II, III. Agricultural Chemistry, I. (Optional for V.) Advanced Chemistry, IV. (Optional for V.)		Descriptive Astronomy, (F. of r.) Surveying, (L. of r.) I, II, IV, V. History of England, [L.] (L. of r.)	Rhetoric. (F. of r.)
8.40 A. M.	Mental and Moral Science, I, V. Civil Engineering, and Contracts, Machine Drawing, III. Designs and Specifications, II. Laboratory work, IV. Valve and Link Motions, III.		Qualitative Analysis, I, IV, V. .	Book-keeping. (F. of r.) Botany. (L. of r.)
9.30 A. M.	Cultivation of Cereals, care and feeding of animals, etc., I. Laboratory work, IV. Zoology, II. Steam Engines and Boilers, III.		Qualitative Analysis, I, IV, V. Descriptive Geometry, II, III.	French.
10.30 A. M.	U. S. Constitution and Political Economy, I, II, III, IV, V.	Zoology and Entomology, II. (F. of r.) Graphic Statics, II. (L. of r.) Zoology and Entomology, I, IV, V.	Physics. Dynamics and Machine Design, III.	Algebra and Geometry.
P. M.	Machine Drawing, Designing and Thesis work, III. Laboratory work, IV, II. (F. of r.) Chemistry, IV. Designing and Thesis work, II. Translation from German, V. Military Drill.	Laboratory work and Garden Practice, I. Isometric and Cabinet Projection, and Field work, I, II, IV, V, (L. of r.) Perspective, II, III. Laboratory work, IV. Translations from French, V. Military Drill.	Mechanical Drawing, Forge work, III Labor.	

LABOR.

It is a characteristic feature of the college, that it makes provision for labor, thus combining practice with theory, manual labor with scientific culture.

The maximum time of required labor is three hours a day for five days in the week.

In the lowest class the students are required to work on the farm, and they receive compensation for their labor according to their industry, faithfulness and efficiency, the educational character of their labor being also taken into account. The maximum price paid is ten cents an hour. The labor is designed to be as much as possible educational, so that every student may become familiar with all the forms of labor upon the farm and in the garden.

The students of the three upper classes carry on their principal labor in the laboratory, the drawing rooms, the work shops, or in the field, and for it they receive no pecuniary consideration, since their labor is of a purely educational character.

MILITARY INSTRUCTION.

Thorough instruction in Military Science is given by an officer detailed by the Secretary of War from the active list U. S. Army and is continued throughout the entire course. All able-bodied male students receive instruction in the school of the soldier, company and batallion drill. Arms and equipments are furnished by the United States Government. The uniform is a cadet gray; the blouse similar to the regulation blouse of an army officer, but with State of Maine buttons, and for officers with chevrons of dark blue; the pants with dark blue stripes one and one-fourth inches wide on outside seams; the cap gray, with dark blue bands and brass crossed rifles in front. The uniform is required to be worn during military exercises, and it is recommended that it be worn at recitations and at other class and general college exercises.

LOCATION.

The college has a pleasant and healthful location, between the villages of Orono and Stillwater, about a mile from each. Stillwater river, a tributary of the Penobscot, flows in front of the buildings, forming the western boundary of the college farm, and adding much to the beauty of the surrounding scenery.

The Maine Central Railroad, over which trains pass several times each day, has a station at the village of Orono. The college is within nine miles of the city of Bangor, and is consequently easily accessible from all parts of the State.

FARM AND BUILDINGS.

The college farm contains three hundred and seventy acres of land of high natural productiveness, and of great diversity of soil, and is therefore well adapted to the experimental purposes of the institution.

White Hall, the building first erected, affords excellent accommodations for a limited number of students. The lower rooms of this building are appropriated to general and class purposes.

Brick Hall contains forty-eight rooms, and has connected with it a boarding house for students. With these buildings, the institution furnishes desirable accommodations for one hundred and twenty-five students.

The Laboratory contains two apparatus rooms, a lecture room, a cabinet, a library and weighing room, a recitation room, and rooms for analytical and other purposes, and is in all respects admirably adapted to the wants of the chemical and mineralogical departments.

The shop built during the summer of 1883, is equipped for instruction in three departments of mechanical work, viz: filing, forging and working in wood.

APPARATUS.

The college is furnished with valuable apparatus for the departments of Physical Geography, Chemistry, Physics, Surveying, Civil Engineering and Mechanical Engineering, to which additions are made as the exigencies of the several departments require. Models have been obtained from the United States Patent Office, and others have been purchased, that serve for purposes of instruction.

LIBRARY.

The library contains nearly five thousand volumes, a large part of which has been obtained through the generosity of Ex-Governor Coburn. Valuable additions have also been made to it by other friends of the college, only a small number of the volumes having

been purchased with money appropriated by the State. It is earnestly hoped that so important an auxiliary in the education of the student will not be disregarded by the people of the State, and that liberal contributions will be made to the library, not only of agricultural and scientific works, but also of those profitable to the general reader.

READING ROOM.

The reading room is supplied with a number of valuable newspapers and periodicals. Grateful acknowledgment is herewith made for the following papers, generously sent by the proprietors to the college :

American Cultivator, American Sentinel, Bangor Messenger, Fairfield Journal, Gospel Banner, Home Farm, Kennebec Journal, Lewiston Journal, Maine Farmer, Maine Industrial Journal, New England Farmer, Oxford Democrat, Piscataquis Observer, Portland Transcript, Somerset Reporter, Whig and Courier, Daily and Weekly, Zion's Herald, New York Witness, Official Gazette U. S. Patent Office, Bangor Daily Commercial, Farmington Chronicle, Good Templars' Record, Phillips Phonograph, Springvale Advocate, Wilford's Microcosm.

The following papers are furnished by subscription, principally by the students :

American Architect and Building News, American Machinist, Boston Journal of Chemistry, Cultivator and Country Gentleman, Harper's Weekly, Missouri Republican, New York Times, New York Tribune, Scientific American, Scientific American Supplement, Sunday Herald, Eastern Argus (furnished by S. W. Gould,) American Naturalist, Blackwood's, Charleston Weekly News, Detroit Commercial Advertiser, Engineering News, Justice, Lewiston Daily Journal, Mirror and Farmer, Journal of Education, New York Daily Herald, Prairie Farmer, Sanitary Engineer, Science, Sunday School Times, The Sunday Sun, Union Advocate.

The following are supplied by the college :

American Journal of Science and Art, Popular Science Monthly, National Live Stock Journal, American Agriculturist, Journal Royal Agricultural Society (England), Journal Franklin Institute, Eclectic Engineering Magazine, Century Magazine, Atlantic Monthly, Harper's Monthly Magazine, North American Review, Education, American Machinist, Science.

CABINET.

Rooms have been fitted up with cases of minerals, and specimens of natural history, and several hundred specimens have been presented to the college. The valuable private cabinets of Prof. C. H. Fernald and Ex-President C. F. Allen are placed in these rooms, and are accessible to the students. All specimens presented will be properly credited and placed on exhibition. Rocks illustrating the different geological formations, and minerals found within the State, are particularly solicited.

PUBLIC WORSHIP.

All students are required to attend daily prayers at the college, and public worship on the Sabbath at some one of the neighboring churches, unless excused by the President.

EXPENSES.

Tuition is thirty dollars a year, divided equally between the two terms. The cost of material and of repair of tools for the course of instruction in the vise shop, is ten dollars; in the forge shop, nine dollars; in the wood shop, four dollars.

Laboratory expenses are at cost of glass ware broken, injury to apparatus and chemicals used. A deposit of five dollars is required of students entering upon a term's work in Qualitative Analysis, and of seven dollars per term from students in Quantitative Analysis. Room rent is four dollars for the first term and five dollars for the second term of the college year.

Students residing too remote from college to *live* at home are required to room in the college halls, except special permission to room elsewhere be granted by the President. Students receiving such permission pay room rent and fuel rent as though residing at the college.

Bedding and furniture must be supplied by the students, who also furnish their own lights. Tables, chairs, bedsteads, sinks and husk mattresses can be purchased at the college at moderate rates.

The price of board is two dollars and sixty cents per week; washing averages not more than sixty cents per dozen.

The warming by steam of single rooms (each suitable for two occupants), has averaged for the past six years about eleven dollars

a room for each term. The expense of heating recitation rooms and rooms for general purposes has been about two dollars a term for each student, and the incidental expenses including pay for the services of janitor, pay for bringing mail, for cleaning and renovating rooms, for general repairs, &c., have been about three dollars per term for each student.

From the items given, with an allowance of a few dollars a year for necessary text-books, quite an accurate estimate of needful expenses can be made.

The college term bills are payable, one-half at the commencement and the remainder at or before the close of each term.

As security for the payment of college bills, a bond of one hundred and fifty dollars with satisfactory sureties is required. A blank form of bond will be given with the ticket of admission.

MEANS OF DEFRAYING EXPENSES.

The terms are so arranged that the long vacation occurs in the winter, that students may have an opportunity to teach during that time. The summer vacation is in the haying season, when farm labor is most profitable. By availing themselves of the opportunities thus afforded, together with the allowance for labor on the college farm, industrious and economical students can cancel the greater part of their college expenses.

SCHOLARSHIPS.

The trustees make provision for the establishing of free scholarships by the following action :

Voted, That any individual or society paying to the Treasurer a sum not less than seven hundred and fifty dollars, shall be entitled to one perpetual free scholarship in the college.

GRADUATES.

CLASS OF 1872.

<i>Name and Occupation.</i>	<i>Residence.</i>
Benjamin F. Gould, C. E., Farmer	San Juan, California
George E. Hammond, C. E., Civil Engineer.....	Eliot
Edwin J. Haskell, B. S., Silk Manufacturer.	Saccarappa
Heddle Hilliard, C. E., Division Engineer, Shore Line R. R.,	Oldtown
Eber D. Thomas, B. S., Civil Engineer.....	Grand Rapids, Mich.
George O. Weston, B. S., Farmer.....	Norridgewock

CLASS OF 1873.

Russell W. Eaton, C. E., Cotton Mill Engineer...	Providence, R. I.
George H. Hamlin, C. E., Professor.....	State College, Orono
Fred. W. Holt, C. E., Civil Engineer..	G. S. R. R., St. George, N. B.
John M. Oak, B. S., Salesman	Bangor
Charles E. Reed, C. E., Farmer	Benton
Frank Lamson Scribner, B. S., Tutor..	Girard College, Philadelphia
Harvey B. Thayer, B. S., Druggist.....	Monson

CLASS OF 1874.

William A. Allen, C. E., Civil Engineer, M. C. R. R.....	Portland
Walter Balentine, M. S., Professor of Agriculture,	
	State College, Orono
William H. Gerrish, B. S., M. D., Physician.....	Merrimac, Mass.
John I. Gurney, B. S., Farmer....	Red Bluffs, Wyoming Territory
David R. Hunter, B. S., Police Officer.....	Oakland, Cal.
Louise H. Ramsdell, B. S., (Mrs. Milton D. Noyes).....	Atkinson

CLASS OF 1875.

Solomon W. Bates, C. E., Civil Engineer.....	Waterville
Wilbur A. Bumps, C. E., M. D., Physician	Dexter
Samuel H. Clapp, C. E., Teacher.....	Danvers, Mass.
Lewis F. Coburn, C. E., Teacher	Crescent City, Cal.

<i>Name and Occupation.</i>	<i>Residence.</i>
Charles W. Colesworthy, B. S.	Nevada
*Charles F. Durham, C. E., Teacher	Crescent City, Cal.
Alfred M. Goodale, B. S., Supt. Cotton Mills	Waltham, Mass.
Edson F. Hitchings, C. E., Pattern Maker	Warren, Mass.
Whitman H. Jordan, M. S., Professor Agricultural Chemistry,	
	State College, Penn.
Edward D. Mayo, M. E., Book-keeper	Minneapolis, Minn.
Albert E. Mitchell, M. E., Mechanical Engineer	Altoona, Penn.
Allen G. Mitchell, C. E., Civil Engineer, Penn. R. R.,	
	Cornellsville, Pa.
*Fred W. Moore, B. S., Teacher	California
Luther W. Rogers, B. S., Merchant	Waterville
Minott W. Sewall, M. E., Mechanical Engineer	Wilmington, Del.
George M. Shaw, C. E., Principal of Schools	Oraville, Cal.
Wesley Webb, B. S., Professor of Agriculture,	
	Delaware College, Newark, Del.
*Edgar A. Work, C. E.	U. S. Military Academy

CLASS OF 1876.

Edmund Abbott, B. S., M. D., Physician	Winterport
Charles P. Allen, B. S., Lawyer	Presque Isle
Elbridge H. Beckler, C. E., Ass't Div. Engineer N. P. R. R.,	
	Bozeman, Mon.
Fred M. Bisbee, C. E., Civil Engineer Mex. C. R. R., El Paso, Tex.	
Edward M. Blanding, B. S., Editor Maine Industrial Journal, Bangor	
Charles M. Brainard, B. S., Lumberman	Skowhegan
*George H. Baker, B. S., Apothecary	Presque Isle
Florence H. Cowan, B. S., Teacher	Orono
Oliver Crosby, M. E., Draughtsman St. P. M. & M. Ry.,	
	St. Paul, Minn.
Vetal Cyr, B. S., Principal of Madawaska Training School, Fort Kent	
James E. Dike, C. E., U. S. Surveyor	Fargo, Dakota Ter.
*Willis O. Dike, B. S.	Gorham
Horace M. Estabrook, B. S., Teacher, Normal School	Gorham
Arthur M. Farrington, B. S., Veterinary Inspector and Supt. Quarantine Station, Garfield, N. J.	
George O. Foss, C. E., U. S. Engineer	St. Paul, Minn.

*Deceased.

<i>Name and Occupation.</i>	<i>Residence.</i>
William T. Haines, B. S., L L. B., Lawyer.....	Waterville
Henry F. Hamilton, B. S., D. D. S., Dentist, 124 Commonwealth Avenue, Boston ; Jersey Stock Breeder, Saco Me.	
Newall P. Haskell, B. S , Farmer.....	New Gloucester
Edward S. How, M. E., Book-keeper.....	Portland
Philip W. Hubbard, B. S., Apothecary.....	Farmington
Samuel M. Jones, M. E., Engineer,	
	Corliss Engine Works, Providence, R. I.
Albert A. Lewis, B. S., Clergyman.....	Houlton
Herbert A. Long, M. E., Farmer	Longfellow's Island, Machias
Luther R. Lothrop, C. E., in Surveyor General's office,	
	St. Paul, Minn.
Nelson H. Martin, B. S., Teacher.....	Ft. Fairfield
Charles E. Oak, M. E , Surveyor.....	Caribou
George D. Parks, C. E., Lawyer and Civil Engineer ...	Brunswick
Hayward Pierce, B. S., West Waldo Granite Works.....	Frankfort
Frank R. Reed, C. E., Carpenter.....	Roxbury
Henry J. Reynolds, B. S., Druggist.....	Eastport
Charles W. Rogers, M. E., Machinist... .	Charlestown, Mass..
William L. Stevens, M. E., Business Manager,	
	Flouring Mills of Leonard Day & Co., Minneapolis, Minn.
John H. Williams, B. S., Gov't. Surveyor.....	Dakota

CLASS OF 1877.

Alvah D. Blackington, C. E., Civil Engineer	Dunmore, Pa..
Robert B. Burns, B. C. E., Ass't Engineer N. P. R. R.,	
	Brainard, Minn..
Eugene H. Dakin, B. S., Financial Agent, Industrial Journal,	
	Bangor.
Edward F. Danforth, B. S., Lawyer	Skowhegan
Augustus J. Elkins, B. M. E., Draughtsman...Fergus Falls, Minn.	
Alicia T. Emery, B. S., Teacher.	Orono
Samuel W. Gould, B. S., Lawyer.....	Skowhegan
* Joseph C. Lunt, B. C. E., Civil Engineer, Mex. C. R. R.,	
	El Paso, Texas.
Fred F. Phillips, B. S., Lawyer.....	Bangor

* Deceased.

<i>Name and Occupation.</i>	<i>Residence.</i>
*Samuel Shaw, B. M. E., Architectural Draughtsman, Boston, Mass.	
Frank P. Stone, B. S., Farmer.	Livermore Falls
Thomas J. Stevens, B. M. E., Apothecary.	Portland
George E. Sturgis, B. C. E., Apothecary.	Oregon
Charles E. Towne, B. C. E., Government Surveyor,	
	Helena, Montana
James W. Weeks, B. M. E., Draughtsman ...	Cedar Rapids, Iowa
Nellie E. Weeks, B. S., (Mrs. Llewellyn Spencer).....	Orono
Ivan E. Webster, B. S., Lumberman.....	Orono

CLASS OF 1878.

Emma Brown, B. S., Teacher, (Mrs. Charles Gilman)....	Enfield
Andrew J. Caldwell, B. M. E., Draughtsman....	Brooklyn, N. Y.
Cecil C. Chamberlain, B. S., Merchant.	Anoka, Minn.
George E. Fernald, B. C. E., Commercial Salesman, Waterloo, Iowa	
James Heald, B. S., Farmer.....	Ipswich, Dak. Ter.
John Locke, B. S.....	Maine Central R. R., Portland
Frank J. Oakes, B. C. E., Draughtsman.....	Brooklyn, N. Y.
John C. Patterson, B. C. E., Civil Engineer and Contractor,	
	Minneapolis, Minn.
Winfield E. Tripp, B. C. E., Commercial Salesman ..	Madison, Wis.
Edward C. Walker, B. S., Lawyer.	Lovell
Otis C. Webster, B. S., Druggist.....	Augusta

CLASS OF 1879.

Harry P. Bean, C. E., Civil Engineer C. M. & St. Paul R. R.,	
	Tama City, Iowa
Edward J. Blake, C. E., Ass't Engineer, W. St. L. & P. R. R.,	
	Peoria, Ill.
Simon P. Crosby, B. S., Lawyer	Dexter
John D. Cutter, B. S., Physician, 336 West Washington St.,	
	Chicago, Ill.
Wilbur F. Decker, B. M. E., Inst'r in Vise Work and Forge Work,	
	State University, Minneapolis, Minn.
David A. Decrow, B. C. E., Draughtsman, Holly Man'g Company,	
	Lockport, New York
Willis E Ferguson, B. S., Farmer.	San Gabriel, California

<i>Name and Occupation.</i>	<i>Residence.</i>
Charles W. Gibbs, B. C. E., Civil Engineer.	Glenburn
Annie M. Gould, B. S., Teacher.	Stillwater
Nellie M. Holt, B. S., Teacher.	Orono
Frank E. Kidder, C. E., Architect.	Boston, Mass.
Mark D. Libby, B. C. E., Civil Engineer	Santa Fe, N. Mexico
Charles S. Loring, B. M. E., Machinist, C. & S. Water Motor Co.,	Auburn
George P. Merrill, M. S., Ass't Nat. Museum, Washington, D. C.	
John W. Meserve, B. M. E., Mech. Engineer, Cambridgeport, Mass.	
Arthur L. Moore, B. S., Farmer.	Limerick
Charles A. Morse, B. C. E., Ass't Div. Engineer, Mex. C. R. R.,	El Paso, Texas
Fred D. Potter, B. M. E., Draughtsman Edison Electric Light Co.,	N. Y.
Alton J. Shaw, B. M. E.	Auburn
Percia A. Vinal, M. S., (Mrs. Albert White)	Orono
George O. Warren, B. S., Farmer.	Fryeburg
Herbert Webster, B. S., Express Manager,	Bangor and St. John, N. B.

CLASS OF 1880.

Horace W. Atwood, B. S., Veterinary Surgeon.	Providence, R. I.
James M. Bartlett, M. S., Analytical Chemist State College, Penn.	
Albert H. Brown, B. S.	Oldtown
Marcia Davis, B. S., Clerk Office Registry of Deeds,	
	West Bay City, Michigan
Fred B. Elliott, B. S., Farmer.	Bowdoin
Sarah P. Farrington, B. S., (Mrs. George P. Merrill)	
	Washington, D. C.
Charles W. Fernald, B. S., Teacher.	Levant
Fred W. Fickett, B. S., U. S. Signal Service.	Sitka, Alaska
George W. Lufkin, B. C. E., Civil Engineer, N. P. R. R.,	
	St. Paul, Minn
Frank A. Mansfield, M. S., Theological Student.	Oberlin, Ohio
Annie A. Matthews, B. S., Teacher.	Stillwater
Henry W. Murray, B. C. E., Teacher.	Milton, California
Franklin R. Patten, B. C. E., Ass't Engineer to Col. Waring,	
	Newport, R. I.

<i>Name and Occupation.</i>	<i>Residence.</i>
Charles T. Pease, B. S., Civil Engineer, Mex. Nat.	R. R., Laredo, Texas
James F. Purington, B. S., Farmer.....	Bowdoin

CLASS OF 1881.

Henry H. Andrews, B. M. E., Lumber Manuf . . .	Hampstead, Va.
Henry W. Brown, B. S., Student of Art.	New Haven, Conn.
Clara L. Buck, B. S., Teacher.	Arlington, Mass.
Fannie E. Colburn, B. S., Teacher	Orono
Edward H. Farrington, B. S., Chemist,	
	Agricultural Experiment Station, New Haven, Conn.
Oliver C. Farrington, B. S., Teacher Greely Institute, Cumberland	
Charles H. Fogg, B. C. E., Div. Supt., Penn.	R. R., Greensburg, Pa.
Aldana T. Ingalls, B. C. E., Division Engineer, C. & C. M. R. R.,	Wilmington, Ohio
Robert John Johnson, B. C. E., City Engineer, Bismarck, Dak.	Ter
Clara A. Libby, B. S., Teacher	Augusta
Horace F. McIntyre, B. M. E , Mill Business . . .	Waldoborough
Charles L. Moor, B. C. E., Law Student.	Portland
*Benjamin F. Murray, B. C. E.	Stillwater
Edwin W. Osborne, B. C. E., N. Pacific R. R., Bernard, Dak.	Ter
Oscar L. Pease, B. S., U. S. Signal Service . . .	Phœnix, Arizona
Harold M. Plaisted, B. M. E., with John Webber, Mill Builder,	
	Detroit, Mich.
Alice I. Ring, B. S.	Orono
May L. Ring, B. S., Teacher.	Orono
* Roscoe L. Smith, B. S., Farmer	Lewiston
George Washington Sturtevant, B. C. E., Civil Engineer,	
	Minneapolis, Minn.
Frank S. Wade, B. S., Physician Hahnemann Medical College and	
	Hospital, Chicago, Ill.
Walter A. White, B. C. E., Law Student.	Ann Arbor, Mich.
John B. Wilson, B. S., Medical Student	Eureka, Kan.
Levi A. Wyman, B. C. E., Farmer	Trenton

* Deceased.

CLASS OF 1882.

<i>Name and Occupation.</i>	<i>Residence.</i>
Charles S. Bickford, B. S., Book-Keeper	Belfast
Jacob L. Boynton, B. S. 266 Washington St., Boston, Mass.	
Charles W. Brown, B. M. E., Draughtsman Patent Office,	
	Washington, D. C.
Stephen J. Buzzell, B. C. E., Book-Keeper ...	Minneapolis, Minn.
Oscar H. Dunton, B. M. E., Draughtsman	Brooklyn, N. Y.
Walter Flint, B. M. E., Instructor, State College.....	Orono
George R. Fuller, B. S., Teacher	Tremont
Charles C. Garland, B. S., 129 Nicollet Avenue, Minneapolis, Minn.	
Joseph F. Gould, B. S., Teacher.....	Bradley
Thomas W. Hine, B. S., Teacher.....	Phoenix, Arizona
Will R. Howard, B. S., Instructor Math. & Mil. Sci.,	
	No. Granville, N. Y.
Alonzo L. Hurd, B. S., Rockford Watch Co.....	Rockford, Ill.
Alfred J. Keith, B. C. E., Ass't Engineer with Col. Waring,	
	Newport, R. I.
Frank L. Kimball, B. C. E., Civil Engineer, Penn. R. R.,	
	Greensburg, Pa.
James H. Patten, B. S., Medical Student.....	Ellsworth
Frederic M. Reed, B. M. E., Draughtsman.....	Hurricane Island
Gleason C. Snow, B. S., Farmer.....	North Orrington
Avery P. Starett, B. S., Farmer.....	Warren
Frank H. Todd, B. C. E., Civil Engineer.....	St. Cloud, Minn.
Eben C. Webster, B. S., Lumber Manufacturer	Orono
Willard A. Wright, B. C. E., Supt. Gas Works	Trinidad, Col.
Daniel C. Woodward, B. M. E., Machinist.....	Dexter

CLASS OF 1883.

James H. Cain, B. S.	Lewiston
Jonathan V. Cilley, B. C. E., Railroad Engineer,	
	Buenos Ayres, Arg. Rep. S. A.
Frank E. Emery, B. S., Houghton Farm,	
	Mountainville, Orange Co., N. Y.
Arthur L. Fernald, B. S.	Levant
Bartholomew P. Kelleher, B. S., Farmer	Orono
Lucius H. Merrill, B. S.	Auburn

<i>Name and Occupation.</i>	<i>Residence.</i>
Jennie C. Michaels, B. S., Teacher....	Harrington
Charles W. Mullen, B. C. E., Civil Engineer,	Shore Line R. R.,
Truman M. Patten, B. C. E....	Hermon
Harry W. Powers, B. S....	Orono
Charles E. Putnam, B. C. E., Civil Engineer	Squantum, Mass.
Lewis Robinson, Jr., B. M. E....	Hampden
George A. Sutton, B. C. E., Civil Engineer, Shore Line R. R.,	Orono
Levi W. Taylor, B. S., Teacher.....	Bangor

OFFICERS OF THE ASSOCIATE ALUMNI.

PRESIDENT.

PROF. G. H. HAMLIN, Orono.

SECRETARY.

PROF. W. BALENTINE, Orono.

TREASURER.

PROF. C. H. BENJAMIN, Orono.

CLASS SECRETARIES.

- 1872. E. J. HASKELL, Saccarappa.
- 1873. J. M. OAK, BANGOR.
- 1874. W. BALENTINE, Orono.
- 1875. W. H. JORDAN, State College, Penn.
- 1876. N. P. HASKELL, New Gloucester.
- 1877. S. W. GOULD, Skowhegan.
- 1878. C. E. WALKER, Lovell.
- 1879. F. E. KIDDER, Boston, Mass.
- 1880. A. H. BROWN, Oldtown.
- 1881. A. T. INGALLS, Wilmington, Ohio.
- 1882. O. H. DUNTON, New York, N. Y.
- 1883. C. E. PUTNAM, Squantum, Mass.

NON-GRADUATES.

Average period of attendance one and a half years.

Present residence not being known, the former residence is given.

Special students are marked in the classes with which they principally recited.

[Corrections for a revised list are solicited.]

CLASS OF 1872.

<i>Name and Occupation.</i>	<i>Residence.</i>
John T. Bowler, Register of Deeds.....	Bangor
William H. Cary, Jr.....	Houlton
Edward F. Fisher, Trader, Pressed Hay.....	Bangor
William H. George, Presbyterian Clergyman.....	Topeka, Kansas
William L. Harlow, Farmer.....	Buckfield
George L. Macomber.....	Durham
Charles C. Norton.....	Buffalo Meadows, Nevada
William B. Oleson, Clergyman.....	Portland
Frank W. Rollins, Book-Keeper	Cloquete, Minn.
Oren S. Sargent, Physician.....	Lawrence, Mass.
* Marcus P. Shorey.....	Oldtown
Benjamin F. Watson, Farmer.....	Levant

CLASS OF 1873.

William H. Claflin, Clerk or Merchant.....	Boston
Joseph E. P. Clark, Book Business.....	Minneapolis, Minn.
* John Jackson.....	Alfred
Samuel Lane, Insurance Agent.....	Houlton
Wilbur F. Lovejoy, Book-Keeper.....	Winn
Thomas P. Pease	Bridgton
Clarence Pullen, Civil Engineer.....	Los Vegs, New Mexico
Frederic A. Ransom..	Augusta

* Deceased.

CLASS OF 1874.

<i>Name and Occupation.</i>	<i>Residence.</i>
Frank P. Burleigh	Springfield
* Mark E. Burnham.....	Garland
Louville Curtis.....	Bowdoinham
Roland Curtis, Physician.....	Bowdoinham
Samuel C. Moore.....	Cherryfield
Charles F. Osgood, Farmer.....	Garland
* Wlliam H. Reed.....	Springfield
George I. Trickey, Lawyer.....	Caribcu
Manly H. Whitehouse.....	Orrington
Edward R. Wingate, Lumber Business.....	Cherryfield
William I. Wood, Lawyer.....	Corinna

CLASS OF 1875.

Gustavus Bellows, Farmer, Specialty Fruit.....	Freedom
Leander H. Blossom, Farmer.....	Turner
John H. Carver, Merchant.....	Boston, Mass.
William B. Dole, Mechanic.....	Bangor
George N. Gage, Physician.....	E. Washington, N. H.
Benson H. Ham, Merchant.....	Charleston
Alton A. Jackson, Physician.....	E. Jefferson
Manley Jackson, Organ and Sewing Machine business	Jefferson
Freeland Jones, Merchant.....	Caribou
Ora Oak.....	California
Sydney S. Soule, Farmer.....	Freeport
Louis C. Southard, Lawyer	Boston, Mass.
George W. Spratt, Merchant	Bangor
Charles H. Spring, Wool Grower..	Buenos Ayres, Arg. Rep., S. A.

CLASS OF 1876.

Francis H. Bacon, Architect.....	New York City
Russell A. Carver	Dixfield
Frank P. Gurney, Farmer.....	Wyoming
Frank A. Hazeltine, Farmer	Dexter
Eugene Hopkins.....	Oldtown
James W. Linnell, Farmer.....	Exeter

* Deceased.

<i>Name and Occupation.</i>	<i>Residence.</i>
George J. Moody, Lawyer	Augusta
Webster Mudgett.	Albion
Edward B. Pillsbury, Telegrapher and Electrician . .	Boston, Mass.
Randall H. Rines, Merchant	Portland
Walter F. Robinson, Surveyor and Farmer	Hartford
Edward C. Shaw, in employ of Am. Watch Co.	Waltham, Mass.
Frank E. Southard, Law Student.	Augusta
Frank P. Whitaker, Physician	Hermon

CLASS OF 1877.

Charles F. Andrews.	Biddeford
Fred S. Bunker, Student, Harvard College.	Cambridge, Mass.
*Edson C. Chase	Stillwater
William W. Dow, Printer	Providence, R. I.
James T. Emery.	Stillwater
Charles M. Freeman	Portland
Frank H. Goud, Clerk	Fort Fairfield
Austin I. Harvey, Physician.	Carmel
Menzies F. Herring, Editor and Publisher	Dexter
Ardean Lovejoy	Orono
Fred B. Mallet, Lumbering business	Minneapolis, Minn.
Fred L. Partridge	Stockton
Fred H. Pullen.	Foxcroft
*Frank E. Reed.	Springfield
Woodbury D. Roberts, Merchant.	Cheney, Wyoming
Thomas B. Seavey, Clerk.	Chicago, Ill.
Henry C. Townsend, Farmer.	Fort Fairfield
Clara E. Webb	Unity
Fred S. Wiggin, Farmer.	Presque Isle
William B. Whitney.	Stillwater

CLASS OF 1878.

Charles H. Benjamin, Professor Mech. Eng. M. S. C.	Orono
Eugene M. Berry.	Sumner
* Nathaniel A. Crocker.	W. Enfield
Charles C. Elwell, Civil Engineer	Boston, Mass.
Howard H. Hartwell.	Vinalhaven

* Deceased.

<i>Name and Occupation.</i>	<i>Residence.</i>
John E. Haynes, Jeweller.....	Oldtown
Fred H. Hinckley, Clerk in U. S. Land Office	Eureka, Nev.
Richard S. Howe, Hotel Clerk	Fryeburg
Carl S. Jameson, Boot and Shoe Dealer	Providence R. I.
William S. Jameson, Dealer in Sugar Machinery, Guadalajara, Mex.	
Edgar H. Lancaster, Mechanic in R. R. Shop.....	Oldtown
* Alvra W. Leathers.....	Dover
James Lunt.....	Bangor
Herbert A. Mallett, Lumberman.....	Stillwater, Minn.
Silas N. Miller, Prospecting for Gold and Silver, Fairplay, Colorado	
Frank J. Perkins, Dry Goods Dealer	Oldtown
Charles F. Plumley, Merchant	Lincoln
John O. Richardson, Trader, Paints and Oil.....	Oldtown
A. Judson Small.....	No. Lubec
Albert H. Stuart, Piano Regulator	Boston, Mass.
Edson Warriner, Watchmaker and Jeweller	Fryeburg
Erastus G. Weeks, Merchant	Jefferson

CLASS OF 1879.

Daniel Allison	Linneus
Arthur P. Brown, Mechanic.....	Orono
Benjamin V. Carver, Machinist.....	Hartford, Conn.
Byron H. Cochrane.....	Woonsocket, R. I.
Fred A. Colburn, Clerk and Scaler.....	Stillwater, Minn.
James W. Cousens, Teacher..	Stillwater
John A. Curtis, U. S. Deputy Surveyor.....	Laramie, Wyoming
George A. Dustin, Machinist and Trader	Dexter
Loomis F. Goodale, Civil Eng. Can. Pac. R. R.,	
	Winnepeg, Manitoba
Edwin A. Hawes, Mechanic.....	Ontario, Cal
* Edwin C. Johnson.....	Gorham
Oliver S. Jones, Farmer	Corinna
Albert Y. Merrill, Lawyer, Judge of Probate.....	Aitkin, Minn.
Asa C. Morton ...	Bangor
Harry W. Peakes, Merchant	Charleston
David S. Plummer, Book-Keeper.....	Boston, Mass.
* Eugene G. Smith	Richmond

<i>Name and Occupation.</i>	<i>Residence.</i>
William N. Titus, Lawyer, Judge Mun. Court	Bristol, R. I.
Howard E. Webster, Lumberman	Orono
Arthur L. Wellington, Shipping Agent	Detroit, Mich.
Charles M. Wilson	San Francisco, Cal.

CLASS OF 1880.

Charles M. Allen, Teacher.....	Kingston, Penn.
Edward N. Atwood, Asst. Supt. Ker. Oil Works.....	Portland
Granville Austin, Clerk.....	Boston, Mass.
Sylvester A. Brown, Clerk.....	Boston, Mass.
Ada M. L. Boswell, Teacher.....	Stetson
Charles E. Cheney, Farmer	W. Scarboro'
Woodbury F. Cleveland, Physician.....	Winterport
Samuel H. Dyer.....	Yarmouth
Osgood E. Fuller, Druggist.....	Albany, N. Y.
Harry H. Goodwin, Lawyer.....	Biddeford
John B. Horton, Book-Keeper	Sandusky, Ohio
Daniel S. Jones, Watchmaker and Jeweller.....	Fort Fairfield
Prescott Keyes, Jr., Farmer	Richmond
*Charles W. Nash	Addison
Willis L. Oak, Clerk	Presque Isle
Fred W. Powers, Farmer and Teacher.....	Fryeburg
Emily Ramsdell, Teacher.....	Atkinson
Mortier C. Randall..	Stillwater
William J. Rich, Student Ins. Tech.....	Boston, Mass.
Charles S. Simpson, Lumber Surveying.....	Florence, Wis.
Frank A. Spratt	Corinth
Daniel Webster, Clerk, Am. Exp. Co.....	Bangor

CLASS OF 1881.

Henry W. Adams, Lumberman.....	Wisconsin
*Lorin T. Boynton.....	Ashland
Charles P. Chandler, Machinist.....	New Gloucester
Elmer C. Chapin, Commercial Traveller.....	Bangor
*Frank P. Fessenden.....	South Bridgton
Archy S. Gee, Tinman	Guilford
George W. Holmes, Merchant.....	Norway
John F. Horne, Shoe Manufacturer	Auburn

<i>Name and Occupation.</i>	<i>Residence.</i>
Edward C. Luques	Biddeford
Charles S. Macomber, Lawyer.....	Carrollton, Iowa
Charles I. D. Nichols, Farmer.....	Hollis
Martin Nowland, Farmer	Ashland
Charles C. Ross, Runner	St. Stephens, N. B.
Clara Southard (Mrs. Hammond)	Lincoln Center
Charles P. Tidd.....	Springfield
Harry P. Tidd.....	Wingleton, Mich.
William R. Tilden, Workman in Shoe Factory.....	Campello, Mass.
William A. Vinal, Scaler	Orono
William G. Wales, Farmer	Iowa
Frank B. Weeks, Government Quartermaster..	San Francisco, Cal.
Flora Welch, in Training School for Nurses, City Hospital,	
	Boston, Mass.
George H. Wilson, Clerk Gov. Storehouse	Maricopa, Arizona

CLASS OF 1882.

Joseph B. Bartlett, Fruit Grower.....	San Gabriel, California
Charles C. Dunn, Farmer	Ashland
Charles W. Fenlason..	Bridgewater
John I. Greenlaw, Merchant.....	N. Fryeburg
William H. Hatch	Lisbon
Wesley J. Jameson	Frankfort
Frederick A. Keniston, Clerk	Waltham, Mass.
Frederick O. Kent	Bremen
Walter H. Nason, Medical Student	New York City
Atta L. Nutter, Teacher	Wilmington, N. C.
Parker J. Page, Law Student	Orono
Harry K. Poole	Bremen
Louis C. Tilley, Farmer.....	Castle Hill

CLASS OF 1883.

George R. Currier, Teacher.....	E. Wilton
Arthur T. Drummond, Farmer.....	Sidney
William E. Emery, Medical Student.....	New York City
Norman F. Kelsea.....	Brockton, Mass.
Edwin P. Kendall, Farmer and Miller	Bowdoinham
Henry W. Longfellow, Clerk	Machias

<i>Name and Occupation.</i>	<i>Residence.</i>
Charles S. Murray	Stillwater
George A. Rich, Student in University	Middletown, Conn.
Everett F. Rich, Clerk	Bangor
Ralph Starbird, Manufacturer	Boston, Mass.
Ralph R. Ulmer, Law Student.....	Rockland
Frank C. Webster, Clerk, Am. Exp. Co....	Bangor
Frank G. Webster, Clerk	Orono
Lewis H. White	Newport

CLASS OF 1884.

Edward S. Abbott, Medical Student	Chicago, Ill.
Edward M. Bailey, Mechanic.....	Orono
Joseph B. Bartlett	Nottingham, N. H.
William A. Berry, Sailor	Hampden
James A. Dunning	Bangor
Freeland Ellis, Clerk	Guilford
Eugene L. Folsom, Machinist	Stillwater
Evie M. Hamblen.....	Stillwater
Robert S. Leighton	Steuben
* Gilbert Longfellow, Jr ..	Machias
Cephas R. Moore, Trader.....	Anson
William R. Pattangall, Law Student.....	Calais
Robert C. Patterson, Surveyor	Minneapolis, Minn.
Charles S. Pendleton, Farmer	Philbrook, Montana
Herbert L. Rich	Attleboro', Mass.
Flora M. Ricker (Mrs. P. J. Page)	Orono
Warren J. Ridley, Conductor Street R. R....	South Boston, Mass.
Elmer A. Savage.....	Minneapolis, Minn.
Mertie Sawyer	Hampden
Charles F. Smith, Law Student	Belfast
* Horace G. Truworthy.	Orono
Jotham Whipple, Jr.	Solon

* Deceased.

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MAINE STATE COLLEGE.

UNIVERSITY OF ILLINOIS.

CLASS OF 1885.

<i>Name and Occupation.</i>	<i>Residence.</i>
James W. Bishop, Farmer	Milo
Harry W. Davis, Clerk	Hillsboro', Dakota
Samuel W. Hill.....	Machias
William Philbrook	Bethel
Carl H. Prince, Farmer	Turner

CALENDAR.

1884—Feb. 12. Tuesday, Second Term commences.
June 19, 20. Thursday and Friday, Examinations.
“ 21. Saturday, Prize Declamations by Sophomores.
“ 22. Sunday, Baccalaureate Address.
“ 23. Monday, Prize Essays by Juniors.
“ 25. Wednesday, Commencement.
“ 26. Thursday, Examination of Candidates for Ad-
mission.
Vacation of five weeks.
Aug. 5. Tuesday, examination of Candidates for Ad-
mission.
First Term commences.
Nov. 24, 25. Monday and Tuesday, Examinations.
Vacation of eleven weeks.
1885—Feb. 10. Tuesday, Second Term commences.



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